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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,891	03/12/2004	Russell Smith	8618-USA	4903

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PATENT GROUP GA030-43
133 PEACHTREE STREET, N.E.
ATLANTA, GA 30303-1847

EXAMINER	
CHRISS, JENNIFER A	
ART UNIT	PAPER NUMBER
1794	
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04/10/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/798,891	SMITH ET AL.	
	Examiner	Art Unit	
	JENNIFER A. CHRISS	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 – 5, 7, 9 – 11, 13, 15 – 17, 33 – 40 and 42 – 48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 – 5, 7, 9 – 11, 13, 15 – 17, 33 – 40 and 42 – 48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/13/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's Amendments and Accompanying Remarks filed on 3/13/09 has been entered and carefully considered. Claims 43 – 48 are added and claims 1 – 5, 7, 9 – 11, 13, 15 – 17, 33 – 40 and 42 – 48 are pending. In view of Applicant's comments regarding Deodhar, the Examiner withdraws all previously set forth rejections as detailed in paragraphs 3 - 7 of the Office Action dated 1/5/09. After an updated search, additional art has been found which renders the invention unpatentable for reasons herein below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1 – 5, 7, 9 – 11, 13, 15, 33, 35 - 40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. (US 2002/0155282) in view of Ali (U.S. Patent No. 4,647,486) and further in view of Currier et al. (US 2005/0266225 A1).

The applied reference has a common assignee and inventor with the instant

application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

As to claim 1, Randall et al. disclose a gypsum core sandwiched between two layers of glass fiber mats that were pre-coated with a combination of mineral pigment, inorganic adhesive binder, and organic binder (Abstract). The fibrous mat has a thickness between 10 and 40 mils (paragraph 38). The coating allows air and water to evaporate through during drying of the board (paragraph 37). The slurry penetrates into the non- coated sided of the fabric and contacts the coating (paragraph 54).

As to claims 2 and 8, Randall et al. teach using various hydrophobic, UV resistant polymer latex materials (paragraph 49).

As to claim 3, the glass fibers may have a diameter of 13 to 16 microns

(paragraph 39).

As to claim 4, the mat may weigh 1 to 3 pounds per 100 square feet (paragraph 39).

As to claim 5, the gypsum core density may be between 40 and 55 pounds per cubic foot (paragraph 36).

As to claims 7 and 9, Randall et al. teach the claimed portions of mineral pigment, inorganic binder, and organic binder (paragraph 41).

As to claim 10, the coating is first applied as an aqueous composition (paragraph 53).

As to claim 11, the claimed additives may be combined with the coating (paragraph 59).

As to claims 13 and 15, water-resistant additive, such as PVA or wax emulsion is used in the gypsum core (paragraph 34).

As to claim 33, Randall et al. disclose a gypsum core sandwiched between two layers of glass fiber mats that were pre-coated with a combination of mineral pigment, inorganic adhesive binder, and organic binder (Abstract). Randall et al. note that the coating is basically impervious to liquid water but should be sufficiently porous to permit water in the aqueous slurry to evaporate in its vaporous state (paragraph 37). The slurry penetrates into the non- coated sided of the fabric and contacts the coating (paragraph 54).

As to claim 36, Randall et al. teach that the coating composition is applied between 15 and 40 pounds per 1000 square feet of the board (paragraph 60).

As to claim 1, 33 and 35, Randall et al. do not disclose the percent thickness of the mat into which the coating extends. However, various values provided by Randall et al. imply Applicant's claimed limitation of 30 to 50%, penetration within about 30 – 50% of the thickness of the glass fiber mat over at least 50 percent of the surface area across the mat or penetration is within about 35 - 50% of the thickness of the glass fiber mat over at least 75% of the surface area of the mat. Randall et al. disclose the mat is completely embedded into the coating on one surface (paragraph 51). The thickness of the fiber mat is 10 to 40 mils (paragraph 38). The midpoint of this range would be 25 mils. Randall et al. teach the coating should have a thickness of 10 mils (paragraph 52). These values indicate a percent penetration of the coating into the mat of about 40%. Also, Randall et al. disclose that where a relatively thin mat is used (i.e. 10 mils, since this is the lowest thickness value disclosed), a coating as thin as 4 mils may suffice (paragraph 52). This would also give a percent penetration of 40%. Even if not implicitly inherent, it would have been obvious to a person having ordinary skill in the art at the time of the invention to extend the coating between 30 to 50%, penetration within about 30 – 50% of the thickness of the glass fiber mat over at least 50 percent of the surface area across the mat or penetration is within about 35 - 50% of the thickness of the glass fiber mat over at least 75% of the surface area of the mat in order to provide sufficient bonding, since Randall et al. teach embedding the fabric into the coating and teach the coating may vary in thickness from 4 to 30 mils (paragraph 52).

Randall et al. do not disclose the percentage of combined water in the gypsum core in a region near the bond.

Ali teaches that combined water in gypsum provides for an effective fire barrier when about 21% of combined water is present (column 1, lines 20-23).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to provide at least 17% combined water in the gypsum core of Randall et al. in order to improve fire barrier properties, as taught by Ali.

Randall in view of Ali fail to teach that the mineral pigment has a particle size such that at least about 95% by weight of the mineral pigment particles pass through a 100 mesh wire screen, with about 75% of the particles by number being greater than 5 microns as required by claims 1 and 33 and that the mineral pigment has a number average particle size of about 40 microns as required by claim 42.

Currier et al. is directed to a gypsum wallboard having a coated non-woven glass fiber mat facing material (Abstract). Currier et al. teach that, in order to be an effective mineral pigment for making a coated mat, the pigment preferably has a particle size such that at least 95% of the pigment particles pass through a 100 mesh wire screen. Preferably, the pigment has most of, if not all of, the fine particles removed. It has been observed that the presence of an excess amount of fine particles in the coating composition negatively impacts the porosity of the coated mat. A preferred mineral pigment is a limestone having an average particle size of about 40 microns (page 4, [0042]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the limestone pigment particles of Currier et al. having an average particle size of about 40 microns for use as the mineral pigment of Randall et al. motivated by the desire to create a gypsum board having the desired level of porosity.

As to claims 1, 7 and 37 – 39, Randall in view of Ali and Currier fail to teach that the microporosity is between 2 and 45 seconds, between 5 and 20 seconds, less than 45 seconds, less than 20 seconds and between 5 and 20 seconds. Although Randall et al. in view of Ali and Currier do not explicitly teach the measurement of microporosity, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. the same coating comprising mineral pigment, organic binder, and inorganic binder) and in the similar production steps (i.e. pre-coating a fibrous mat and bonding the mat to a gypsum slurry) used to produce the gypsum board. The burden is upon the Applicant to prove otherwise. I*n re Fitzgerald*, 205 USPQ 594. In the alternative, the claimed microporosity would obviously have been provided by the process disclosed by Randall et al. because the entire goal of the reference is to provide a coating that is liquid impermeable, but does allow water vapor to pass through (paragraph 41).

As to claim 40, Randall et al. in view of Ali teach the claimed invention above but fail to teach that the coating has a viscosity of about 8,000 cps to 18,000 cps. It would

have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the viscosity of the coating motivated by the desire to create a coating and mat having the desired thickness and porosity. The burden is upon the Applicant to demonstrate that the claimed viscosity and fiber length are critical and has unexpected results. In the present invention, one would have been motivated to optimize the coating viscosity motivated by the desire to create a gypsum board having the desired physical characteristics such as porosity level.

4. Claim 16 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. (US 2002/0155282) in view of Ali (U.S. Patent No. 4,647,486) and Currier et al. (US 2005/0266225 A1), as set forth above, and further in view of Babcock et al. (U.S. Patent No. 4,746,365).

The applied reference has a common assignee and inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the

application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Randall et al. teach that the latex adhesive binder may be a styrene-acrylic copolymer (claim 16). However, Randall et al. do not teach the acrylic portion of the copolymer can be (meth)acrylic.

Babcock et al. teach various latex emulsions for coating gypsum boards (Abstract). Babcock et al. disclose that copolymers of styrene and methacrylate create latex useful for this purpose (column 8, lines 1-5-16).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to use methacrylate copolymer in Randall et al. as taught by Babcock et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. (US 2002/0155282) in view of Ali (U.S. Patent No. 4,647,486), Currier et al. (US 2005/0266225 A1) and Babcock et al. (U.S. Patent No. 4,746,365), as set forth above, and further in view of Miyakoshi (U.S. Patent No. 5,827,788).

The applied reference has a common assignee and inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a)

might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Randall et al. teach that the board may have both surfaces faced with a coated fibrous mat, but may have a surface that is not faced with a coated fibrous mat (paragraph 57).

Miyakoshi teach that a blend of glass fibers and synthetic fibers can create a decorative layer useful on gypsum boards (column 4, lines 1-9).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to use a fiber layer of glass and synthetic fibers in order to create a decorative layer on the gypsum board of Randall et al., as taught by Miyakoshi.

6. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. (US 2002/0155282) in view of Ali (U.S. Patent No. 4,647,486) and Currier et al.

(US 2005/0266225 A1), as applied above, and further in view of Kennedy et al. (US 5,484,653).

The applied reference has a common assignee and inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

As to claim 34, Randall et al. teach that the glass fibers may have a diameter of 13 to 16 microns (paragraph 39), the mat may weigh 1 to 3 pounds per 100 square feet (paragraph 39) and the fibrous mat has a thickness between 10 and 40 mils (0.01 - 0.04 inch) (paragraph 38).

Randall et al. is silent regarding the length of the glass fibers, specifically that they are 1/4 to 1 inch in length.

Kennedy et al. is directed to a non-woven fiber mat for use as a backing material for various components used in the building industry (Abstract). Kennedy et al. teach the use of glass fibers in the non-woven fiber mat having a length in the range of 1.2 to 4.4 cm (0.5 - 1.7 inch), preferably about 1.9 cm in length (0.7 inch) with an average diameter of between 10 and 20 microns (column 4, lines 35 – 50). Kennedy et al. note that the functional properties of the mat are affected by the dimensions of the fibers. Longer fibers with a larger diameter will tend to produce a mat with a coarser hand while a shorter, smaller diameter fiber contribute to a mat having a relatively softer hand (column 5, lines 1 - 25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use glass fibers with a length ranging from 0.5 to 1.7 inches as suggested by Kennedy et al. in the glass mat of Randall et al. in view of Ali and Currier motivated by the desire to create a facer mat for a gypsum board using suitable glass fibers which provide the desired functional properties.

7. Claims 1 – 5, 7, 9 – 11, 13, 15, 33, 35 - 40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. (US 2002/0155282) in view of Ali (U.S. Patent No. 4,647,486) and further in view of Schlachter (US 6,077,593).

As to claim 1, Randall et al. disclose a gypsum core sandwiched between two layers of glass fiber mats that were pre-coated with a combination of mineral pigment, inorganic adhesive binder, and organic binder (Abstract). The fibrous mat has a thickness between 10 and 40 mils (paragraph 38). The coating allows air and water to

evaporate through during drying of the board (paragraph 37). The slurry penetrates into the non- coated sided of the fabric and contacts the coating (paragraph 54).

As to claims 2 and 8, Randall et al. teach using various hydrophobic, UV resistant polymer latex materials (paragraph 49).

As to claim 3, the glass fibers may have a diameter of 13 to 16 microns (paragraph 39).

As to claim 4, the mat may weigh 1 to 3 pounds per 100 square feet (paragraph 39).

As to claim 5, the gypsum core density may be between 40 and 55 pounds per cubic foot (paragraph 36).

As to claims 7 and 9, Randall et al. teach the claimed portions of mineral pigment, inorganic binder, and organic binder (paragraph 41).

As to claim 10, the coating is first applied as an aqueous composition (paragraph 53).

As to claim 11, the claimed additives may be combined with the coating (paragraph 59).

As to claims 13-15, water-resistant additive, such as PVA or wax emulsion is used in the gypsum core (paragraph 34).

As to claim 33, Randall et al. disclose a gypsum core sandwiched between two layers of glass fiber mats that were pre-coated with a combination of mineral pigment, inorganic adhesive binder, and organic binder (Abstract). Randall et al. note that the coating is basically impervious to liquid water but should be sufficiently porous to permit

water in the aqueous slurry to evaporate in its vaporous state (paragraph 37). The slurry penetrates into the non- coated sided of the fabric and contacts the coating (paragraph 54).

As to claim 36, Randall et al. teach that the coating composition is applied between 15 and 40 pounds per 1000 square feet of the board (paragraph 60).

As to claim 1, 33 and 35, Randall et al. do not disclose the percent thickness of the mat into which the coating extends. However, various values provided by Randall et al. imply Applicant's claimed limitation of 30 to 50%, penetration within about 30 – 50% of the thickness of the glass fiber mat over at least 50 percent of the surface area across the mat or penetration is within about 35 - 50% of the thickness of the glass fiber mat over at least 75% of the surface area of the mat. Randall et al. disclose the mat is completely embedded into the coating on one surface (paragraph 51). The thickness of the fiber mat is 10 to 40 mils (paragraph 38). The midpoint of this range would be 25 mils. Randall et al. teach the coating should have a thickness of 10 mils (paragraph 52). These values indicate a percent penetration of the coating into the mat of about 40%. Also, Randall et al. disclose that where a relatively thin mat is used (i.e. 10 mils, since this is the lowest thickness value disclosed), a coating as thin as 4 mils may suffice (paragraph 52). This would also give a percent penetration of 40%. Even if not implicitly inherent, it would have been obvious to a person having ordinary skill in the art at the time of the invention to extend the coating between 30 to 50%, penetration within about 30 – 50% of the thickness of the glass fiber mat over at least 50 percent of the surface

area across the mat or penetration is within about 35 - 50% of the thickness of the glass fiber mat over at least 75% of the surface area of the mat in order to provide sufficient bonding, since Randall et al. teach embedding the fabric into the coating and teach the coating may vary in thickness from 4 to 30 mils (paragraph 52).

Randall et al. do not disclose the percentage of combined water in the gypsum core in a region near the bond.

Ali teaches that combined water in gypsum provides for an effective fire barrier when about 21% of combined water is present (column 1, lines 20-23).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to provide at least 17% combined water in the gypsum core of Randall et al. in order to improve fire barrier properties, as taught by Ali.

Randall in view of Ali fail to teach that the mineral pigment has a particle size such that at least about 95% by weight of the mineral pigment particles pass through a 100 mesh wire screen, with about 75% of the particles by number being greater than 5 microns as required by claims 1and 33 and that the mineral pigment has a number average particle size of about 40 microns as required by claim 42.

Schlachter is directed to a ceiling board having a coating of a latex composition comprising a latex binder and filler particles (Abstract). The larger size filler particles have a preferred median particle size range from about 45 to about 75 microns in order to provide the best ease of application, scratch resistance and gloss retention (column

3, lines 5 – 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the particles of Schlachter having an average particle size of about 45 microns for use as the mineral pigment of Randall et al. in view of Ali motivated by the desire to create a gypsum board having a coating which exhibits scratch resistance and gloss retention.

As to claims 1, 7 and 37 – 39, Randall in view of Ali and Schlachter fail to teach that the microporosity is between 2 and 45 seconds, between 5 and 20 seconds, less than 45 seconds, less than 20 seconds and between 5 and 20 seconds. Although Randall et al. in view of Ali and Schlachter do not explicitly teach the measurement of microporosity, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. the same coating comprising mineral pigment, organic binder, and inorganic binder) and in the similar production steps (i.e. pre-coating a fibrous mat and bonding the mat to a gypsum slurry) used to produce the gypsum board. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. In the alternative, the claimed microporosity would obviously have been provided by the process disclosed by Randall et al. because the entire goal of the reference is to provide a coating that is liquid impermeable, but does allow water vapor to pass through (paragraph 41).

As to claim 40, Randall et al. in view of Ali and Schlachter teach the claimed

invention above but fail to teach that the coating has a viscosity of about 8,000 cps to 18,000 cps. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the viscosity of the coating motivated by the desire to create a coating having the desired thickness and porosity. The burden is upon the Applicant to demonstrate that the claimed viscosity is critical and has unexpected results. In the present invention, one would have been motivated to optimize the coating viscosity motivated by the desire to create a gypsum board having the desired physical characteristics such as porosity level.

8. Claim 16 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. (US 2002/0155282) in view of Ali (U.S. Patent No. 4,647,486) and Schlachter (US 6,077,593), as set forth above, and further in view of Babcock et al. (U.S. Patent No. 4,746,365).

Randall et al. teach that the latex adhesive binder may be a styrene-acrylic copolymer (claim 16). However, Randall et al. do not teach the acrylic portion of the copolymer can be (meth)acrylic.

Babcock et al. teach various latex emulsions for coating gypsum boards (Abstract). Babcock et al. disclose that copolymers of styrene and methacrylate create latex useful for this purpose (column 8, lines 1-5-16).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to use methacrylate copolymer in Randall et al. as taught by Babcock et al., since it has been held to be within the general skill of a worker in the art to select a

known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. (US 2002/0155282) in view of Ali (U.S. Patent No. 4,647,486), Schlachter (US 6,077,593) and Babcock et al. (U.S. Patent No. 4,746,365), as set forth above, and further in view of Miyakoshi (U.S. Patent No. 5,827,788).

Randall et al. teach that the board may have both surfaces faced with a coated fibrous mat, but may have a surface that is not faced with a coated fibrous mat (paragraph 57).

Miyakoshi teach that a blend of glass fibers and synthetic fibers can create a decorative layer useful on gypsum boards (column 4, lines 1-9).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to use a fiber layer of glass and synthetic fibers in order to create a decorative layer on the gypsum board of Randall et al., as taught by Miyakoshi.

10. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. (US 2002/0155282) in view of Ali (U.S. Patent No. 4,647,486) and Schlachter (US 6,077,593), as applied above, and further in view of Kennedy et al. (US 5,484,653).

As to claim 34, Randall et al. teach that the glass fibers may have a diameter of 13 to 16 microns (paragraph 39), the mat may weigh 1 to 3 pounds per 100 square feet

(paragraph 39) and the fibrous mat has a thickness between 10 and 40 mils (0.01 - 0.04 inch) (paragraph 38).

Randall et al. is silent regarding the length of the glass fibers, specifically that they are 1/4 to 1 inch in length.

Kennedy et al. is directed to a non-woven fiber mat for use as a backing material for various components used in the building industry (Abstract). Kennedy et al. teach the use of glass fibers in the non-woven fiber mat having a length in the range of 1.2 to 4.4 cm (0.5 - 1.7 inch), preferably about 1.9 cm in length (0.7 inch) with an average diameter of between 10 and 20 microns (column 4, lines 35 – 50). Kennedy et al. note that the functional properties of the mat are affected by the dimensions of the fibers. Longer fibers with a larger diameter will tend to produce a mat with a coarser hand while a shorter, smaller diameter fiber contribute to a mat having a relatively softer hand (column 5, lines 1 - 25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use glass fibers with a length ranging from 0.5 to 1.7 inches as suggested by Kennedy et al. in the glass mat of Randall et al. in view of Ali and Currier motivated by the desire to create a facer mat for a gypsum board using suitable glass fibers which provide the desired functional properties.

11. Claims 1, 10 and 42 are rejected under 35 U.S.C. 103(a) as being obvious over Bush et al. (US 2003/0134079 A1) in view of Ali (U.S. Patent No. 4,647,486) and further in view of Currier et al. (US 2005/0266225 A1).

The applied reference has a common assignee and inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Bush et al. is directed to a coated glass mat suitable for use as a facer in a gypsum board (page 3, [0035]).

As to claims 1 and 10, Bush et al. teach a coated glass mat where the coating penetrates deeply into the thickness of the mat from approximately 25% up to 75% of the mat thickness. Bush specifically indicates that the coating of the mat within this range affords higher tensile strengths. (page 3, [0035]). Bush et al. indicate that the coated glass mats can be used as facers on both sides of the gypsum core (page 8, [0076]). In the Examples, Bush et al. teach the use of a 13.9 lbs/thousand square feet

glass mat having a thickness average of about 0.023 inches (page 4, [0051]). In the Examples, Bush discusses applying the coating at an amount of 70.9 and 70.5 pounds per 1000 square feet (pages 4 – 6). Additionally, in the Examples, Bush et al. teach that the coating can comprise carboxylated SBR latex and the organic binder and limestone as the mineral pigment (page 4, [0050]). Bush et al. specifically indicates that the coating mixture is produced in accordance with US Patent No. 5,112,678. It should be noted that Bush et al. indicate that the mineral pigment must be of suitable mesh size, specifically where at least 85% by weight of the filler passes through 200-mesh screen (page 4, [0048]). Bush et al. teach that the porosity of the coated mat is in a range from about 1.3 CFM to about 5.0 CFM (page 3, [0037]).

Bush et al. do not disclose the percentage of combined water in the gypsum core in a region near the bond.

Ali teaches that combined water in gypsum provides for an effective fire barrier when about 21% of combined water is present (column 1, lines 20-23).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to provide at least 17% combined water in the gypsum core of Randall et al. in order to improve fire barrier properties, as taught by Ali.

Bush et al. in view of Ali fail to teach that the mineral pigment has a particle size such that at least about 95% by weight of the mineral pigment particles pass through a 100 mesh wire screen, with about 75% of the particles by number being greater than 5

microns as required by claim 1 and that the mineral pigment has a number average particle size of about 40 microns as required by claim 42.

Currier et al. is directed to a gypsum wallboard having a coated non-woven glass fiber mat facing material (Abstract). Currier et al. teach that, in order to be an effective mineral pigment for making a coated mat, the pigment preferably has a particle size such that at least 95% of the pigment particles pass through a 100 mesh wire screen. Preferably, the pigment has most of, if not all of, the fine particles removed. It has been observed that the presence of an excess amount of fine particles in the coating composition negatively impacts the porosity of the coated mat. A preferred mineral pigment is a limestone having an average particle size of about 40 microns (page 4, [0042]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the limestone pigment particles of Currier et al. having an average particle size of about 40 microns for use as the mineral pigment of Bush et al. motivated by the desire to create a gypsum board having the desired level of porosity.

As to claim 1, Bush et al. in view of Ali and Currier fail to teach that the microporosity is between 2 and 45 seconds, between 5 and 20 seconds, less than 45 seconds, less than 20 seconds and between 5 and 20 seconds. Although Bush et al. in view of Ali and Currier do not explicitly teach the measurement of microporosity, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. the same coating

comprising mineral pigment, organic binder, and inorganic binder) and in the similar production steps (i.e. pre-coating a fibrous mat and bonding the mat to a gypsum slurry) used to produce the gypsum board. The burden is upon the Applicant to prove otherwise. I*n re Fitzgerald*, 205 USPQ 594. In the alternative, the claimed microporosity would obviously have been provided by the process disclosed by Bush et al. because the entire goal of the reference is to provide a coated glass mat that has a porosity that is sufficiently low such that it is not penetrable by gypsum slurry yet porous enough to allow water vapor to escape from the gypsum slurry when heated (page 3, [0036]).

12. Claims 1, 10 and 42 are rejected under 35 U.S.C. 103(a) as being obvious over Bush et al. (US 2003/0134079 A1) in view of Ali (U.S. Patent No. 4,647,486) and further in view of Schlachter (US 6,077,593).

Bush et al. is directed to a coated glass mat suitable for use as a facer in a gypsum board (page 3, [0035]).

As to claims 1 and 10, Bush et al. teach a coated glass mat where the coating penetrates deeply into the thickness of the mat from approximately 25% up to 75% of the mat thickness. Bush specifically indicates that the coating of the mat within this range affords higher tensile strengths. (page 3, [0035]). Bush et al. indicate that the coated glass mats can be used as facers on both sides of the gypsum core (page 8, [0076]). In the Examples, Bush et al. teach the use of a 13.9 lbs/thousand square feet glass mat having a thickness average of about 0.023 inches (page 4, [0051]). In the Examples, Bush discusses applying the coating at an amount of 70.9 and 70.5 pounds

per 1000 square feet (pages 4 – 6). Additionally, in the Examples, Bush et al. teach that the coating can comprise carboxylated SBR latex and the organic binder and limestone as the mineral pigment (page 4, [0050]). Bush et al. specifically indicates that the coating mixture is produced in accordance with US Patent No. 5,112,678. It should be noted that Bush et al. indicate that the mineral pigment must be of suitable mesh size, specifically where at least 85% by weight of the filler passes through 200-mesh screen (page 4, [0048]). Bush et al. teach that the porosity of the coated mat is in a range from about 1.3 CFM to about 5.0 CFM (page 3, [0037]).

Bush et al. do not disclose the percentage of combined water in the gypsum core in a region near the bond.

Ali teaches that combined water in gypsum provides for an effective fire barrier when about 21% of combined water is present (column 1, lines 20-23).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to provide at least 17% combined water in the gypsum core of Randall et al. in order to improve fire barrier properties, as taught by Ali.

Bush et al. in view of Ali fail to teach that the mineral pigment has a particle size such that at least about 95% by weight of the mineral pigment particles pass through a 100 mesh wire screen, with about 75% of the particles by number being greater than 5 microns as required by claim 1 and that the mineral pigment has a number average particle size of about 40 microns as required by claim 42.

Schlachter is directed to a ceiling board having a coating of a latex composition comprising a latex binder and filler particles (Abstract). The larger size filler particles have a preferred median particle size range from about 45 to about 75 microns in order to provide the best ease of application, scratch resistance and gloss retention (column 3, lines 5 – 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the particles of Schlachter having an average particle size of about 45 microns for use as the mineral pigment of Bush et al. motivated by the desire to create a gypsum board having a coating which exhibits scratch resistance and gloss retention.

As to claim 1, Bush et al. in view of Ali and Schlachter fail to teach that the microporosity is between 2 and 45 seconds, between 5 and 20 seconds, less than 45 seconds, less than 20 seconds and between 5 and 20 seconds. Although Bush et al. in view of Ali and Schlachter do not explicitly teach the measurement of microporosity, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. the same coating comprising mineral pigment, organic binder, and inorganic binder) and in the similar production steps (i.e. pre-coating a fibrous mat and bonding the mat to a gypsum slurry) used to produce the gypsum board. The burden is upon the Applicant to prove otherwise. I*n re Fitzgerald*, 205 USPQ 594. In the alternative, the claimed microporosity would obviously have been provided by the process disclosed by Bush et al. because

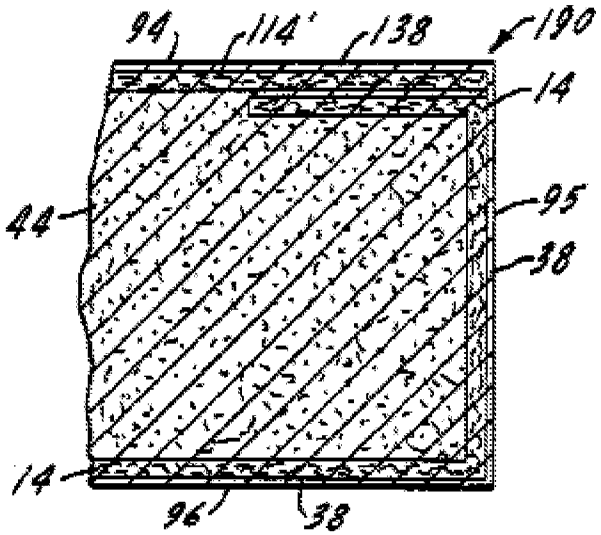
the entire goal of the reference is to provide a coated glass mat that has a porosity that is sufficiently low such that it is not penetrable by gypsum slurry yet porous enough to allow water vapor to escape from the gypsum slurry when heated (page 3, [0036]).

13. Claims 43 – 48 are rejected under 35 U.S.C. 103(a) as being obvious over Hauber et al. (US 6,524,679) in view of Bush et al. (US 2003/0134079 A1) and further in view of Currier et al. (US 2005/0266225 A1).

The applied reference has a common assignee and inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Hauber et al. is directed to a glass reinforced gypsum board (Title).

As to claims 43 and 46, Hauber et al. teach a multi-layer gypsum board as shown below (Figure 7).



As described by Hauber et al., the gypsum board has a denser gypsum slurry 38 coated on the edges of the gypsum board with the core gypsum slurry 44 being less dense (column 7, lines 40 – 69 and column 8, lines 1 – 65). The top-facing sheet 114 is comprised of a sheet or mat of randomly aligned glass fibers which is similar to the bottom facing sheet (column 10, lines 45 - 60). The bottom facing sheet comprises a mat of randomly aligned glass fibers having a diameter of 13 – 16 microns (column 7, lines 15 – 30). Hauber et al. teach that a polymer coating is applied to the glass fiber facing sheets 14 and 114' (column 20, lines 45 - 60) comprising an acrylic latex coating (column 21, lines 1 – 55) applied in a thickness ranging from about 0.5 mils to about 4.0 mils (column 22, lines 5 - 20). The coating may additionally comprise one or more rheology modifying compounds that assist the coating in striking into the front face

slurry surface layer (column 22, lines 3 - 15).

Hauber et al. teach the claimed invention above but fail to teach that the first coating and the second coating penetrating the first and the second fiber mats penetrate at a depth of about 30 percent to about 50 percent of the thickness of the fiber mat as required by claims 43 and 46.

Bush et al. is directed to a coated glass mat suitable for use as a facer in a gypsum board (page 3, [0035]). Bush et al. teach a coated glass mat where the coating penetrates deeply into the thickness of the mat from approximately 25% up to 75% of the mat thickness. Bush specifically indicates that the coating of the mat within this range affords higher tensile strengths. (page 3, [0035]). Bush et al. indicate that the coated glass mats can be used as facers on both sides of the gypsum core (page 8, [0076]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to coat the glass facer sheets of Hauber et al. with a coating having a penetration of 25% up to 75% of the mat thickness motivated by the desire to create a gypsum board with improved tensile strength.

Hauber et al. in view of Bush et al. fail to teach that the coating has a mineral pigment, where the pigment has a particle size such that at least about 95% by weight of the mineral pigment particles pass through a 100 mesh wire screen, with about 75% of the particles by number being greater than 5 microns as required by claims 43 and 46

and that the mineral pigment has a number average particle size of about 40 microns as required by claims 45 and 48.

Currier et al. is directed to a gypsum wallboard having a coated non-woven glass fiber mat facing material (Abstract). Currier et al. teach that the coating comprises an acrylic binder (page 3, [0032]) and a mineral pigment or filler such as ground limestone, clay, talc, etc. (page 4, [0041]). Currier et al. teach that, in order to be an effective mineral pigment for making a coated mat, the pigment preferably has a particle size such that at least 95% of the pigment particles pass through a 100 mesh wire screen. Preferably, the pigment has most of, if not all of, the fine particles removed. It has been observed that the presence of an excess amount of fine particles in the coating composition negatively impacts the porosity of the coated mat. A preferred mineral pigment is a limestone having an average particle size of about 40 microns (page 4, [0042]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the limestone pigment particles of Currier et al. having an average particle size of about 40 microns for use as the mineral pigment of Hauber et al. in view of Bush et al. motivated by the desire to create a gypsum board having the desired level of porosity while maintaining having a pleasing aesthetic provided by the pigment.

As to claims 43 and 46, Hauber et al. in view of Bush et al. and Currier et al. fail to teach that the glass fibers of the fiber mats have a length of about one-quarter inch to

about 1 inch and the basis weight of the first mat is 1 to 3 pounds per 100 square feet. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the fiber length and basis weight of the mat since it has been held that, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The burden is upon the Applicant to demonstrate that the claimed fiber length and basis weight are critical and has unexpected results. In the present invention, one would have been motivated to optimize the fiber length and basis weight motivated by the desire to create a gypsum board having the desired strength and porosity while being lightweight.

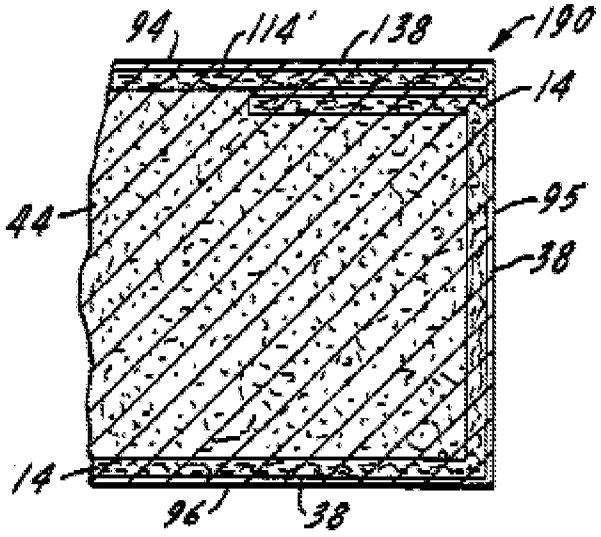
As to claims 44 and 47, Hauber et al. in view of Bush et al. and Currier et al. disclose the claimed invention except for that that second portion is 18 – 20% more dense than the first portion. It should be noted that the relative density of the first and second portions are result effective variables. Hauber et al. note that the denser gypsum mixture is provided on the front, back and lateral end surfaces to provide structure strength and a lighter, lower density core provides an overall reduction in weight of the board. Additionally, production and delivery costs are reduced, handling at the construction site is easier and provides the ability to form the edges of the gypsum board without cutting thus eliminating exposed glass fibers and further strengthening the structural integrity of the final gypsum board segments (column 20, lines 1 - 18). It would have been obvious to one having ordinary skill in the art at the time the invention

was made to create a gypsum board where the second portion is 18 – 20% more dense than the first portion since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the relative densities of the first and second portions to create a relatively lightweight gypsum board with increased structural strength along the edges.

14. Claims 43 - 48 are rejected under 35 U.S.C. 103(a) as being obvious over Hauber et al. (US 6,524,679) in view of Bush et al. (US 2003/0134079 A1) and further in view of Schlachter (US 6,077,593).

Hauber et al. is directed to a glass reinforced gypsum board (Title).

As to claims 43 and 46, Hauber et al. teach a multi-layer gypsum board as shown below (Figure 7).



As described by Hauber et al., the gypsum board has a denser gypsum slurry 38 coated on the edges of the gypsum board with the core gypsum slurry 44 being less dense (column 7, lines 40 – 69 and column 8, lines 1 – 65). The top-facing sheet 114 is comprised of a sheet or mat of randomly aligned glass fibers which is similar to the bottom facing sheet (column 10, lines 45 - 60). The bottom facing sheet comprises a mat of randomly aligned glass fibers having a diameter of 13 – 16 microns (column 7, lines 15 – 30). Hauber et al. teach that a polymer coating is applied to the glass fiber facing sheets 14 and 114' (column 20, lines 45 - 60) comprising an acrylic latex coating (column 21, lines 1 – 55) applied in a thickness ranging from about 0.5 mils to about 4.0 mils (column 22, lines 5 - 20). The coating may additionally comprise one or more rheology modifying compounds that assist the coating in striking into the front face slurry surface layer (column 22, lines 3 - 15). The polymer is in solution with water and can be in the range of from about 1 to about 99% solution (column 21, lines 55 - 65).

Hauber et al. teach the claimed invention above but fail to teach that the first coating and the second coating penetrating the first and the second fiber mats penetrate at a depth of about 30 percent to about 50 percent of the thickness of the fiber mat as required by claims 43 and 46.

Bush et al. is directed to a coated glass mat suitable for use as a facer in a gypsum board (page 3, [0035]). Bush et al. teach a coated glass mat where the coating penetrates deeply into the thickness of the mat from approximately 25% up to 75% of the mat thickness. Bush specifically indicates that the coating of the mat within this range affords higher tensile strengths. (page 3, [0035]). Bush et al. indicate that the

coated glass mats can be used as facers on both sides of the gypsum core (page 8, [0076]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to coat the glass facer sheets of Hauber et al. with a coating having a penetration of 25% up to 75% of the mat thickness motivated by the desire to create a gypsum board with improved tensile strength.

Hauber et al. in view of Bush et al. fail to teach that the coating has a mineral pigment, where the pigment has a particle size such that at least about 95% by weight of the mineral pigment particles pass through a 100 mesh wire screen, with about 75% of the particles by number being greater than 5 microns as required by claims 43 and 46 and that the mineral pigment has a number average particle size of about 40 microns as required by claims 45 and 48.

Schlachter is directed to a ceiling board having a coating of a latex composition comprising a latex binder and filler particles (Abstract). The larger size filler particles have a preferred median particle size range from about 45 to about 75 microns in order to provide the best ease of application, scratch resistance and gloss retention (column 3, lines 5 – 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the particles of Schlachter having an average particle size of about 45 microns for use as mineral pigment in the coating of Hauber et al. in view of

Bush et al. motivated by the desire to create a gypsum board having a coating which exhibits scratch resistance and gloss retention while maintaining having a pleasing aesthetic provided by the pigment.

As to claims 43 and 46, Hauber et al. in view of Bush et al. and Schlachter fail to teach that the glass fibers of the fiber mats have a length of about one-quarter inch to about 1 inch and the basis weight of the first mat is 1 to 3 pounds per 100 square feet. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the fiber length and basis weight of the mat since it has been held that, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The burden is upon the Applicant to demonstrate that the claimed fiber length and basis weight are critical and has unexpected results. In the present invention, one would have been motivated to optimize the fiber length and basis weight motivated by the desire to create a gypsum board having the desired strength and porosity while being lightweight.

As to claims 44 and 47, Hauber et al. in view of Bush et al. and Schlachter disclose the claimed invention except for that that second portion is 18 – 20% more dense than the first portion. It should be noted that the relative density of the first and second portions are result effective variables. Hauber et al. note that the denser gypsum mixture is provided on the front, back and lateral end surfaces to provide

structure strength and a lighter, lower density core provides an overall reduction in weight of the board. Additionally, production and delivery costs are reduced, handling at the construction site is easier and provides the ability to form the edges of the gypsum board without cutting thus eliminating exposed glass fibers and further strengthening the structural integrity of the final gypsum board segments (column 20, lines 1 - 18). It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a gypsum board where the second portion is 18 – 20% more dense than the first portion since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the relative densities of the first and second portions to create a relatively lightweight gypsum board with increased structural strength along the edges.

Response to Arguments

15. As noted above, Applicant's arguments with respect to Deodhar are persuasive and, therefore, the rejections have been withdrawn. However, new grounds of rejection are introduced above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. CHRISS whose telephone number is

(571)272-7783. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 6 p.m., first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A Chriss/

Primary Examiner, Art Unit 1794

/J. A. C./

Primary Examiner, Art Unit 1794